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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,218	09/12/2003	Juergen Pensel	33997.0089	9107

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EXAMINER	
STULTZ, JESSICA T	
ART UNIT	**PAPER NUMBER**
2873	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/662,218	PENSEL ET AL.	
	Examiner	Art Unit	
	Jessica T. Stultz	2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 March 2007 and 28 August 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Examiner's Comments

The examiner has withdrawn the finality of the previous office action dated January 30, 2007, based upon the Appeal Brief filed August 28, 2007. Specifically, upon further consideration, a new ground(s) of rejection is made in view of Volk '789 in view of Fantone et al US 4,786,154, as shown below.

In view of the appeal brief filed on August 28, 2007, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below.

RICKY MACK
SUPERVISORY PATENT EXAMINER

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2-5, 7-9 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Volk et al US 5,424,789, herein referred to as Volk '789, in view of Fantone et al US 4,786,154, herein referred to as Fantone et al '154.

Regarding claim 2, Volk '789 discloses an ophthalmic microscope (Column 2, lines 31-36, wherein the biomicroscope is used as an ophthalmoscope) comprising: at least one observation beam path for intersecting with a patient's eye being viewed through the microscope (Column 3, line 47-Column 4, line 51, wherein the observation beam path originates from an illumination system "16" including an illuminating light source "18", Figures 1-2); and an apparatus for illumination of the patient's eye with illuminating light (Column 4, line 18-Column 6, line 9, wherein the apparatus for illuminating a patient's eye comprises the illumination system "16" including projecting lens "20" and optical system "28", Figures 1-4), wherein the apparatus includes means for selecting the spectral band and polarization of the illuminating light (Column 4, line 18-Column 6, line 9, wherein the optical system "28" portion of the illumination system "16" comprises lens "38" which changes the polarization or spectral transmission, i.e. spectral band, of the illumination beam, Figures 1-4) such that the illuminating light is reflected, absorbed, or scattered differently in different media of the patient's eye or at interfaces of different media of the patient's eye (Column 5, line 29-Column 6, line 58, wherein the

illumination beam is modified to change the transmission, and thereby the reflection, absorption, and scattering characteristics of the illumination beam through different media of the patient's eye, Figures 1-4), but does not specifically disclose that the ophthalmic microscope is used as a surgical microscope and further comprises: a display for generating an optical display image in response to a driver signal received by the display; a first deflection element arranged in the observation beam path for diverting illuminating light reflected from the patient's eye out of the observation beam path; a sensor arranged to receive light diverted by the first deflection element, the sensor generating a sensor signal representative of the light received thereby; an evaluation unit connected to the sensor and to the display, the evaluation unit receiving and processing the sensor signal to provide a driver signal for the display, whereby the display generates an optical display image of the patient's eye; and a second deflection element arranged in the observation beam path for reflecting the display image of the patient's eye into the observation beam path. In the same field of endeavor of microscopes used to image patients (Abstract), Fantone et al '154 teaches of a surgical microscope (Abstract and Column 2, lines 17-Column 3, line 15 and Column 4, lines 10-33, wherein the surgical stereomicroscope is shown in Figure 2) comprising a display for generating an optical display image in response to a driver signal received by the display (Column 2, line 38-Column 3, line 15 and Column 4, lines 10-33, wherein the displays "30" generate an optical display image in response to a driver signal from sensors "38", Figure 2); a first deflection element arranged in the observation beam path for diverting illuminating light reflected from the patient out of the observation beam path (Column 2, line 38-Column 3, line 15 and Column 4, lines 10-33, wherein the first deflection elements are beam splitters "32", Figure 2); a sensor arranged to receive light diverted by the first deflection element; the sensor

generating a sensor signal representative of the light received thereby (Column 2, line 38-Column 3, line 15 and Column 4, lines 10-33, wherein the sensors "38" generate a signal to deliver to displays "30", Figure 2); an evaluation unit connected to the sensor and to the display, the evaluation unit receiving and processing the sensor signal to provide a driver signal for the display, whereby the display generates an optical display image of the patient (Column 2, line 38-Column 3, line 15 and Column 4, lines 10-33, wherein the image processors "40" receive a signal from sensors "38" and deliver the signal to displays "30" which display an image of the patient, Figure 2); and a second deflection element arranged in the observation beam path for reflecting the display image of the patient into the observation beam path (Column 2, line 38-Column 3, line 15 and Column 4, lines 10-33, wherein the second deflection elements are beam combiners "46", Figure 2), for the purpose of providing real time combination of real images and enhanced images of a patient to a surgeon during surgery (Column 4, liens 10-56 and Abstract). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made for the ophthalmic microscope of Volk '789 to be a surgical microscope and to further comprise a display for generating an optical display image in response to a driver signal received by the display; a first deflection element arranged in the observation beam path for diverting illuminating light reflected from the patient's eye out of the observation beam path; a sensor arranged to receive light diverted by the first deflection element, the sensor generating a sensor signal representative of the light received thereby; an evaluation unit connected to the sensor and to the display, the evaluation unit receiving and processing the sensor signal to provide a driver signal for the display, whereby the display generates an optical display image of the patient's eye; and a second deflection element arranged in the observation beam path for

reflecting the display image of the patient's eye into the observation beam path, since Fantone et al '154 teaches of a surgical microscope comprising a display for generating an optical display image in response to a driver signal received by the display; a first deflection element arranged in the observation beam path for diverting illuminating light reflected from the patient out of the observation beam path; a sensor arranged to receive light diverted by the first deflection element; the sensor generating a sensor signal representative of the light received thereby; an evaluation unit connected to the sensor and to the display, the evaluation unit receiving and processing the sensor signal to provide a driver signal for the display, whereby the display generates an optical display image of the patient; and a second deflection element arranged in the observation beam path for reflecting the display image of the patient's eye into the observation beam path, for the purpose of providing real time combination of real images and enhanced images of a patient to a surgeon during surgery.

Regarding claim 7, Volk '789 and Fantone et al '154 disclose and teach of an ophthalmic surgical microscope as shown above, and Volk '789 further discloses that the apparatus for illumination of the patient's eye includes at least one light source emitting illuminating light (Column 3, line 47-Column 4, line 51, wherein the illumination beam originates from an illuminating light source "18", Figures 1-2); characterized by a specified spectral band and polarization (Column 4, line 18-Column 6, line 9, wherein the optical system "28" portion of the illumination system "16" comprises lens "38" which changes the polarization or spectral transmission, i.e. spectral band, of the illumination beam, Figures 1-4).

Regarding claim 8, Volk '789 and Fantone et al '154 disclose and teach of an ophthalmic surgical microscope as shown above, and Volk '789 further discloses that the apparatus for

illumination of the patient's eye includes a light source (Column 3, line 47-Column 4, line 51, wherein the illumination beam originates from an illuminating light source "18", Figures 1-2); and at least one non-spatial filter selectably insertable after the light source for selecting the spectral band and polarization of the illuminating light (Column 4, line 18-Column 6, line 9, wherein the optical system "28" portion of the illumination system "16" comprises a non-spatial filter comprising lens "38" which changes the polarization or spectral transmission, i.e. spectral band, of the illumination beam, wherein the optical system "28" is selectively inserted or removed from the system as desired, Figures 1-4).

Regarding claim 9, Volk '789 and Fantone et al '154 disclose and teach of an ophthalmic surgical microscope as shown above, and Volk '789 further discloses that the apparatus for illumination of the patient's eye includes a lamp light source (Column 3, line 47-Column 4, line 51, wherein the illumination beam originates from an illuminating lamp light source "18", Figures 1-2).

Regarding claim 13, Volk '789 and Fantone et al '154 disclose and teach of an ophthalmic surgical microscope as shown above, and Volk '789 further discloses a filter selectably insertable into the observation beam path for visualization of the different media of the patient's eye (Column 4, line 18-Column 6, line 9, wherein the optical system "28" portion of the illumination system "16", which is used to view different portions, i.e. media of the patient's eye, comprises a non-spatial filter comprising lens "38", wherein the optical system "28" is selectively inserted or removed from the system as desired, Figures 1-4).

Regarding claims 3-5 and 14, Volk '789 and Fantone et al '154 disclose and teach of an ophthalmic surgical microscope as shown above, and Fantone et al '154 further teaches that the

surgical microscope is a stereomicroscope having a pair of observation beam paths (Abstract and Column 2, lines 17-Column 3, line 15 and Column 4, lines 10-33, wherein the surgical stereomicroscope has two observation beam paths as shown in Figure 2), two of the first deflection elements are provided and allocated one to each of the pair of observation beam paths (Column 2, line 38-Column 3, line 15 and Column 4, lines 10-33, wherein the first deflection elements are beam splitters "32", Figure 2), two of the second deflection elements are provided and allocated one to each of the pair of observation beam paths (Column 2, line 38-Column 3, line 15 and Column 4, lines 10-33, wherein the second deflection elements are beam combiners "46", Figure 2), and two filters are provided and allocated one to each of the pair of observation beam paths for visualization of the different media of the patient (Column 2, line 38-Column 3, line 15 and Column 4, lines 10-33, wherein the filters are band pass filters "34", Figure 2), wherein the display generates a true-color image or a false-color image (Column 3, lines 27-51, wherein the images are multi-colored or false-colored).

Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Volk '789 in view of Fantone et al '154, as applied to independent claim 2 above, and further in view of Nakamura US 2001/0010592, herein referred to as Nakamura '592.

Regarding claims 10-12, Volk '789 and Fantone et al '154 disclose and teach of an ophthalmic microscope as shown above, but do not specifically disclose a shutter in the observation path, the shutter being operable to selectively block direct observation light from the patient's eye and a shutter between the display and the second deflection element, the shutter being operable to selectively block the display image of the patient's eye. In the same field of endeavor of microscopes, Nakamura '592 teaches of a stereomicroscope including a first shutter

for selectively blocking a light flux from a target and a second shutter for selectively blocking a light flux from a monitor (Section 36, wherein the microscope "11" includes shutters "24A" and "24B", Figure 3) for the purpose of allowing a user to selectively block a light flux from a target or a light flux from the monitor and to also provide an image of the target overlapped with an electronic image from the monitor when both shutters are open (Sections 36-37). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made for the ophthalmic microscope of Volk '789 and Fantone et al '154 to further comprise a shutter in the observation path, the shutter being operable to selectively block direct observation light from the patient's eye and a shutter between the display and the second deflection element, the shutter being operable to selectively block the display image of the patient's eye since Nakamura '592 teaches of a stereomicroscope including a first shutter for selectively blocking a light flux from a target and a second shutter for selectively blocking a light flux from a monitor for the purpose of allowing a user to selectively block a light flux from a target or a light flux from the monitor and to also provide an image of the target overlapped with an electronic image from the monitor when both shutters are open.

Claims 6 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Volk '789 in view of Fantone et al '154, as applied to independent claim 2 above, and further in view of Lashkeri et al US 6,350,031, herein referred to as Lashkeri et al '031.

Regarding claims 6 and 15-16, Volk '789 and Fantone et al '154 disclose and teach of an ophthalmic microscope as shown above, but do not specifically disclose that the display generates black-and-white images, or that the means for selecting the spectral band and polarization of the illuminating light, specifically the at least one non-spatial filter, also functions

to select the phase of the illuminating light. In the same field of endeavor of ophthalmic stereomicroscopes, Lashkeri et al '031 teaches of an ophthalmic stereomicroscope (Column 8, line 42-Column 9, line 55, wherein the ophthalmic stereomicroscope is shown in Figure 3) comprising a display for generating an optical display image in response to a driver signal received by the display (Column 8, line 42-Column 9, line 55, wherein the displays "285" and "285'" generate an image to the observer "280" and "280'", Figure 3); wherein a filter functions to select the phase of the illuminating light (Column 10, line 49-Column 11, line 6, wherein the modulating source "145g" modulates the amplitude and frequency, and thereby phase of the illumination beam from the light source "145", Figure 7a) and the display generates black-and-white images (Column 4, lines 25-39 and Column 10, line 35-Column 11, line 37, Column 12, line 63-Column 13, line 10, wherein the display generates color, pseudo-color or black-and-white images, Figure 3), for the purpose of for the purpose of allowing direct stereoscopic observation of the fundus of the human eye using illuminating radiation and displaying the observations in an image (Column 4, lines 25-46). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made for the ophthalmic microscope of Volk '789 and Fantone et al '154 to further comprise the display generating black-and-white images, wherein the means for selecting the spectral band and polarization of the illuminating light, specifically the at least one non-spatial filter, also functions to select the phase of the illuminating light since Lashkeri et al '031 teaches of an ophthalmic stereomicroscope comprising a display for generating an optical display image in response to a driver signal received by the display; wherein a filter functions to select the phase of the illuminating light and the display generates black-and-white images, for the purpose of for the purpose of allowing

direct stereoscopic observation of the fundus of the human eye using illuminating radiation and displaying the observations in an image.

Response to Arguments

Applicant's arguments, see Appeal Brief, filed August 28, 2007, with respect to the rejection(s) of claim(s) 2-16 under Volk '789 in view of Lashkeri et al '031 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Volk '789 in view of Fantone et al US 4,786,154 as shown above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessica T. Stultz whose telephone number is (571) 272-2339. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on 571-272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jessica T Stultz
Examiner
Art Unit 2873
November 15, 2007